

CHAPTER 135
TECHNICAL STANDARDS AND CORRECTIVE ACTION REQUIREMENTS FOR
OWNERS AND OPERATORS OF UNDERGROUND STORAGE TANKS

[Prior to 12/3/86, Water, Air and Waste Management[900]]

567—135.1(455B) Authority, purpose and applicability.

135.1(1) Authority. Iowa Code chapter 455B, division IV, part 8, authorizes the department to regulate underground tanks used for storage of regulated substances, and to adopt rules relating to detection, prevention and correction of releases of regulated substances from such tanks, maintenance of financial responsibility by owners or operators of such tanks, new tank performance standards, notice and reporting requirements, and designation of regulated substances.

135.1(2) Purpose. The purpose of these rules is to protect the public health and safety and the natural resources of Iowa by timely and appropriate detection, prevention and correction of releases of regulated substances from underground storage tanks (UST).

135.1(3) Applicability.

a. The requirements of this chapter apply to all owners and operators of a UST system as defined in 135.2(455B) except as otherwise provided in paragraphs “*b*,” “*c*,” and “*d*” of this subrule. Any UST system listed in paragraph “*c*” of this subrule must meet the requirements of 135.1(4).

b. The following UST systems are excluded from the requirements of this chapter:

(1) Any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act, or a mixture of such hazardous waste and other regulated substances.

(2) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under Section 402 or 307(b) of the federal Clean Water Act.

(3) Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks.

(4) Any UST system whose capacity is 110 gallons or less.

(5) Any UST system that contains a de minimus concentration of regulated substances.

(6) Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

c. Deferrals. Rules 135.3(455B), 135.4(455B), 135.5(455B), 135.6(455B) and 135.9(455B) do not apply to any of the following types of UST systems:

(1) Wastewater treatment tank systems;

(2) Any UST systems containing radioactive material that are regulated under the federal Atomic Energy Act of 1954 (42 U.S.C. 2011 and following);

(3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50 Appendix A;

(4) Airport hydrant fuel distribution systems; and

(5) UST systems with field-constructed tanks.

d. Deferrals. Rule 135.5(455B) does not apply to any UST system that stores fuel solely for use by emergency power generators. All new and replacement UST systems for emergency power generators must meet the secondary containment requirements in subrule 135.3(9) and the leak detection and delivery prohibition requirements in subrule 135.3(8).

e. Nonpetroleum underground storage tank systems. Rules 135.8(455B) to 135.12(455B) do not apply to any nonpetroleum underground storage tank system except as otherwise provided for by the department.

135.1(4) Interim prohibition for deferred UST systems.

a. No person may install a UST system listed in 135.1(3) “*c*” for the purpose of storing regulated substances unless the UST system (whether of single- or double-wall construction):

(1) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(2) Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and

(3) Is constructed or lined with material that is compatible with the stored substance.

b. Notwithstanding paragraph “a” of this subrule, a UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this paragraph for the remaining life of the tank.

NOTE: The National Association of Corrosion Engineers Standard RP-02-85, “Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,” may be used as guidance for complying with 135.1(4) “b.”

567—135.2(455B) Definitions.

“*Aboveground release*” means any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the aboveground portion of a UST system and aboveground releases associated with overfills and transfer operations as the regulated substance moves to or from a UST system.

“*Active remediation*” means corrective action undertaken to reduce contaminant concentrations by other than passive remediation or monitoring.

“*Ancillary equipment*” means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a UST.

“*Appurtenances*” means devices such as piping, fittings, flanges, valves, dispensers and pumps used to distribute, meter, or control the flow of regulated substances to or from an underground storage tank.

“*ASTM*” means the American Society of Testing and Materials.

“*Bedrock*” means the rock, usually solid, underlying soil or any other unconsolidated surficial cover.

“*Below-ground release*” means any release to the subsurface of the land and to groundwater. This includes, but is not limited to, releases from the below-ground portions of an underground storage tank system and below-ground releases associated with overfills and transfer operations as the regulated substance moves to or from an underground storage tank.

“*Beneath the surface of the ground*” means beneath the ground surface or otherwise covered with earthen materials.

“*Best available technology*” means those practices which most appropriately remove, treat, or isolate contaminants from groundwater, soil or associated environment, as determined through professional judgment considering actual equipment or techniques currently in use, published technical articles, site hydrogeology and research results, engineering and groundwater professional reference materials, consultation with experts in the field, capital and operating costs, and guidelines or rules of other regulatory agencies.

“*Best management practices*” means maintenance procedures, schedule of activities, prohibition of practices, and other management practices, or a combination thereof, which, after problem assessment, is determined to be the most effective means of monitoring and preventing additional contamination of the groundwater and soil.

“*Carcinogenic risk*” means the incremental risk of a person developing cancer over a lifetime as a result of exposure to a chemical, expressed as a probability such as one in a million (10^{-6}). For carcinogenic chemicals of concern, probability is derived from application of certain designated exposure assumptions and a slope factor.

“Cathodic protection” is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current.

“Cathodic protection tester” means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

“CERCLA” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

“Certified groundwater professional” means a person certified pursuant to 1995 Iowa Code section 455G.18 and 567—Chapter 134.

“Change-in-service” means changing the use of a tank system from a regulated to a nonregulated use.

“Chemicals of concern” means the compounds derived from petroleum-regulated substances which are subject to evaluation for purposes of applying risk-based corrective action decision making. These compounds are benzene, ethylbenzene, toluene, and xylenes (BTEX) and naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. (NOTE: Measurement of these last four constituents may be done by a conversion method from total extractable hydrocarbons, see subrule 135.8(3).)

“Compatible” means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

“Conduit” means underground structures which act as pathways and receptors for chemicals of concern, including but not limited to gravity drain lines and sanitary or storm sewers.

“Connected piping” means all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

“Consumptive use” with respect to heating oil means consumed on the premises.

“Corrective action” means an action taken to reduce, minimize, eliminate, clean up, control or monitor a release to protect the public health and safety or the environment. Corrective action includes, but is not limited to, excavation of an underground storage tank for the purpose of repairing a leak or removal of a tank, removal of contaminated soil, disposal or processing of contaminated soil, cleansing of groundwaters or surface waters, natural biodegradation, institutional controls, technological controls and site management practices. Corrective action does not include replacement of an underground storage tank. Corrective action specifically excludes third-party liability.

“Corrosion expert” means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

“Department” means Iowa department of natural resources.

“Dielectric material” means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST systems (e.g., tank from piping).

“Dispenser” means equipment that is used to transfer a regulated substance from underground piping through a rigid or flexible hose or piping located aboveground to a point of use outside the underground storage tank system, such as a motor vehicle.

“Drinking water well” means any groundwater well used as a source for drinking water by humans and groundwater wells used primarily for the final production of food or medicine for human consumption in facilities routinely characterized with the Standard Industrial Codes (SIC) group 283 for drugs and 20 for foods.

“Electrical equipment” means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

“Enclosed space” means space which can act as a receptor or pathway capable of creating a risk of explosion or inhalation hazard to humans and includes “explosive receptors” and “confined spaces.” Explosive receptors means those receptors designated in these rules which are evaluated for explosive risk. Confined spaces means those receptors designated in these rules for evaluation of vapor inhalation risks.

“Excavation zone” means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

“Existing tank system” means a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or before January 14, 1987. Installation is considered to have commenced if:

The owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,

1. Either a continuous on-site physical construction or installation program has begun; or,
2. The owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction at the site or installation of the tank system to be completed within a reasonable time.

“Farm tank” is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. “Farm” includes fish hatcheries, rangeland and nurseries with growing operations.

“Flow-through process tank” is a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

“Free product” refers to a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water).

“Gathering lines” means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

“Groundwater ingestion pathway” means a pathway through groundwater by which chemicals of concern may result in exposure to a human receptor as specified in rules applicable to Tier 1, Tier 2 and Tier 3.

“Groundwater plume” means the extent of groundwater impacted by the release of chemicals of concern.

“Groundwater to plastic water line pathway” means a pathway through groundwater which leads to a plastic water line.

“Groundwater vapor to enclosed space pathway” means a pathway through groundwater by which vapors from chemicals of concern may lead to a receptor creating an inhalation or explosive risk hazard.

“Hazardous substance UST system” means an underground storage tank system that contains a hazardous substance defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum, and which is not a petroleum UST system.

"Hazard quotient" means the ratio of the level of exposure of a chemical of concern over a specified time period to a reference dose for that chemical of concern derived for a similar exposure period. Unless otherwise specified, the hazard quotient designated in these rules is one.

"Heating oil" means petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

"Highly permeable soils" means for the purpose of UST closures: fractured bedrock, any soils with a hydraulic conductivity rate greater than 0.3 meters per day, or any soil material classified by the Unified Soil Classification System as published by the United States Department of the Interior or ASTM designation as (1) GW - well graded gravel, gravel-sand mixtures, little or no fines, (2) GP - poorly graded gravel, gravel-sand mixtures, little or no fines, (3) SW - well graded sands, gravelly sands, little or no fines, or (4) SP - poorly graded sands, gravelly sands, little or no fines.

"Hydraulic conductivity" means the rate of water movement through the soil measured in meters per day (m/d) as determined by the following methods. For a saturated soil, the Bouwer-Rice method or its equivalent shall be used. For unsaturated soil, use a Guelph permeameter or an equivalent in situ constant-head permeameter in a boring finished above the water table. If an in situ method cannot be used for unsaturated soil because of depth, or if the soil is homogeneous and lacks flow-conducting channels, fractures, cavities, etc., laboratory measurement of hydraulic conductivity is acceptable.

If laboratory methods are used, collect undisturbed soil samples using a thin-walled tube sampler in accordance with American Society of Testing and Materials (ASTM) Standard D1587. Samples shall be clearly marked, preserved and transported to the laboratory. The laboratory shall measure hydraulic conductivity using a constant-head permeameter in accordance with ASTM Standard D2434 or a falling-head permeameter in accordance with accepted methodology.

"Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

"Institutional controls" means the restriction on use or access (for example, fences, deed restrictions, restrictive zoning) to a site or facility to eliminate or minimize potential exposure to a chemical(s) of concern. Institutional controls include any of the following:

1. A law of the United States or the state;
2. A regulation issued pursuant to federal or state laws;
3. An ordinance or regulation of a political subdivision in which real estate subject to the institutional control is located;
4. A restriction on the use of or activities occurring at real estate which are embodied in a covenant running with the land which:
 - Contains a legal description of the real estate in a manner which satisfies Iowa Code section 558.1 et seq.;
 - Is properly executed, in a manner which satisfies Iowa Code section 558.1 et seq.;
 - Is recorded in the appropriate office of the county in which the real estate is located;
 - Adequately and accurately describes the institutional control; and
 - Is in the form of a covenant as set out in Appendix C or in such a manner reasonably acceptable to the department.

5. Any other institutional control the owner or operator can reasonably demonstrate to the department which will reduce the risk from a release throughout the period necessary to ensure that no applicable target risk is likely to be exceeded.

"Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

“Maintenance” means the normal operational upkeep to prevent an underground storage tank system from releasing product.

“MCLs” means the drinking water primary maximum contaminant levels set out in 567—41.3(455B).

“Motor fuel” means petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.

“New tank system” means a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after January 14, 1987. (See also “Existing Tank System.”)

“Noncarcinogenic risk” means the potential for adverse systemic or toxic effects caused by exposure to noncarcinogenic chemicals of concern, expressed as the hazard quotient.

“Noncommercial purposes” with respect to motor fuel means not for resale.

“Non-drinking water well” means any groundwater well (except an extraction well used as part of a remediation system) not defined as a drinking water well including a groundwater well which is not properly plugged in accordance with department rules in 567—Chapters 39 and 49.

“Nonresidential area” means land which is not currently used as a residential area and which is zoned for nonresidential uses.

“On the premises where stored” with respect to heating oil means UST systems located on the same property where the stored heating oil is used.

“Operational life” refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed under rule 135.15(455B).

“Operator” means any person in control of, or having responsibility for, the daily operation of the UST system.

“Overfill release” is a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.

“Owner” means:

1. In the case of a UST system in use on July 1, 1985, or brought into use after that date, any person who owns a UST system used for storage, use, or dispensing of regulated substances; and
2. In the case of any UST system in use before July 1, 1985, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

“Owner” does not include a person, who, without participating in the management or operation of the underground storage tank or the tank site, holds indicia of ownership primarily to protect that person’s security interest in the underground storage tank or the tank site property, prior to obtaining ownership or control through debt enforcement, debt settlement, or otherwise.

“Pathway” means a transport mechanism by which chemicals of concern may reach a receptor(s) or the location(s) of a potential receptor.

“Permanent closure” means removing all regulated substances from the tank system, assessing the site for contamination, and permanently removing tank and piping from the ground or filling the tank in place with a solid inert material and plugging all piping. Permanent closure also includes partial closure of a tank system such as removal or replacement of tanks or piping only.

“Person” means an individual, trust, firm, joint stock company, federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body. “Person” also includes a consortium, a joint venture, a commercial entity, and the United States government.

“Person who conveys or deposits a regulated substance” means a person who sells or supplies the owner or operator with the regulated substance and the person who transports or actually deposits the regulated substance in the underground tank.

“Petroleum UST system” means an underground storage tank system that contains petroleum or a mixture of petroleum with de minimus quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

“Pipe” or *“piping”* means a hollow cylinder or tubular conduit that is constructed of nonearthen materials and that routinely contains and conveys regulated substances from the underground tank(s) to the dispenser(s) or other end-use equipment. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures that contain and convey regulated substances from the underground tank(s) to the dispenser(s). This definition does not include vent, vapor recovery, or fill lines.

“Pipeline facilities (including gathering lines)” are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.

“Point of compliance” means the location(s) at the source(s) of contamination or at the location(s) between the source(s) and the point(s) of exposure where concentrations of chemicals of concern must meet applicable risk-based screening levels at Tier 1 or other target level(s) at Tier 2 or Tier 3.

“Point of exposure” means the location(s) at which an actual or potential receptor may be exposed to chemicals of concern via a pathway.

“Potential receptor” means a receptor not in existence at the time a Tier 1, Tier 2 or Tier 3 site assessment is prepared, but which could reasonably be expected to exist within 20 years of the preparation of the Tier 1, Tier 2 or Tier 3 site assessment or as otherwise specified in these rules.

“Preferential pathway” means conditions which act as a pathway permitting contamination to migrate through soils and to groundwater at a faster rate than would be expected through naturally occurring undisturbed soils or unfractured bedrock including but not limited to wells, cisterns, tile lines, drainage systems, utility lines and envelopes, and conduits.

“Protected groundwater source” means a saturated bed, formation, or group of formations which has a hydraulic conductivity of at least 0.44 meters per day (m/d) and a total dissolved solids of less than 2,500 milligrams per liter (mg/l) or a bedrock aquifer with total dissolved solids of less than 2,500 milligrams per liter (mg/l) if bedrock is encountered before groundwater.

“Receptor” means enclosed spaces, conduits, protected groundwater sources, drinking and non-drinking water wells, surface water bodies, and public water systems which when impacted by chemicals of concern may result in exposure to humans and aquatic life, explosive conditions or other adverse effects on health, safety and the environment as specified in these rules.

“Reference dose” means a designated toxicity value established in these rules for evaluating potential noncarcinogenic effects in humans resulting from exposure to a chemical(s) of concern. Reference doses are designated in Appendix A.

“Regulated substance” means an element, compound, mixture, solution or substance which, when released into the environment, may present substantial danger to the public health or welfare or the environment. Regulated substance includes:

1. Substances designated in Table 302.4 of 40 CFR Part 302 (September 13, 1988),
2. Substances which exhibit the characteristics identified in 40 CFR 261.20 through 261.24 (May 10, 1984) and which are not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (May 10, 1984),
3. Any substance defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under subtitle C), and
4. Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). The term “regulated substance” includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

“Release” means any spilling, leaking, emitting, discharging, escaping, leaching or disposing of a regulated substance, including petroleum, from a UST into groundwater, surface water or subsurface soils.

“Release detection” means determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

“Repair” means to restore a tank or UST system component that has caused a release of product from the UST system.

“Replace” or *“replacement”* means the installation of a new underground tank system or component, including dispensers, in substantially the same location as an existing tank system or component in lieu of that tank system or component.

“Residential area” means land used as a permanent residence or domicile, such as a house, apartment, nursing home, school, child care facility or prison, land zoned for such uses, or land where no zoning is in place.

“Residential tank” is a tank located on property used primarily for dwelling purposes.

“Risk-based screening level (RBSL)” means the risk-based concentration level for chemicals of concern developed for a Tier 1 analysis to be met at the point(s) of compliance and incorporated in the Tier 1 Look-up Table in Appendix A.

“SARA” means the federal Superfund Amendments and Reauthorization Act of 1986.

“Secondary containment tank” or *“secondary containment piping”* means a tank or piping which is designed with an inner primary shell and a liquid-tight outer secondary shell or jacket which extends around the entire inner shell, and which is designed to contain any leak through the primary shell from any part of the tank or piping that routinely contains product, and which also allows for monitoring of the interstitial space between the shells and the detection of any leak.

“Septic tank” is a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

“Site assessment investigation” means an investigation conducted by a registered groundwater professional to determine relevant site historical data, the types, amounts, and sources of petroleum contaminants present, hydrogeological characteristics of the site, full vertical and horizontal extent of the contamination in soils and groundwater, direction and rate of flow of the contamination, ranges of concentration of the contaminants by analysis of soils and groundwater, the vertical and horizontal extent of the contamination exceeding department standards, and the actual or potential threat to public health and safety and the environment.

“Site cleanup report” means the report required to be submitted by these rules and in accordance with department guidance which may include the results of Tier 2 or Tier 3 assessment and analysis.

“Site-specific target level (SSTL)” means the risk-based target level(s) for chemicals of concern developed as the result of a Tier 2 or Tier 3 assessment which must be achieved at applicable point(s) of compliance at the source to meet the target level(s) at the point(s) of exposure.

“Soil leaching to groundwater pathway” means a pathway through soil by which chemicals of concern may leach to groundwater and through a groundwater transport pathway impact an actual or potential receptor.

“Soil plume” means the vertical and horizontal extent of soil impacted by the release of chemicals of concern.

“Soil to plastic water line pathway” means a pathway which leads from soil to a plastic water line.

“Soil vapor to enclosed space pathway” means a pathway through soil by which vapors from chemicals of concern may lead to a receptor creating an inhalation or explosive risk hazard.

“Storm water or wastewater collection system” means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

“*Surface impoundment*” is a natural topographic depression, constructed excavation, or diked area formed primarily of earthen materials (although it may be lined with manufactured materials) that is not an injection well.

“*Surface water body*” means general use segments as provided in 567—paragraph 61.3(1) “a” and designated use segments of water bodies as provided in 567—paragraph 61.3(1) “b” and 567—subrule 61.3(5).

“*Surface water criteria*” means, for chemicals of concern, the Criteria for Chemical Constituents in Table 1 of rule 567—61.3(455B), except that “1,000 ug/L” will be substituted for the chronic levels for toluene for Class B designated use segments.

“*Surface water pathway*” means a pathway which leads to a surface water body.

“*Tank*” is a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials (e.g., concrete, steel, plastic) that provide structural support.

“*Target level*” means the allowable concentrations of chemicals of concern established to achieve an applicable target risk which must be met at the point(s) of compliance as specified in these rules.

“*Target risk*” refers to an applicable carcinogenic and noncarcinogenic risk factor designated in these rules and used in determining target levels (for carcinogenic risk assessment, target risk is a separate factor, different from exposure factors, both of which are used in determining target levels).

“*Technological controls*” means a physical action which does not involve source removal or reduction, but severs or reduces exposure to a receptor, such as caps, containment, carbon filters, point of use water treatment, etc.

“*Tier 1 level*” means the groundwater and soil levels in the Tier 1 Look-up Table set out in rule 135.9(455B) and Appendix A.

“*Tier 1 site assessment*” means the evaluation of limited site-specific data compared to the Tier 1 levels established in these rules for the purpose of determining which pathways do not require assessment and evaluation at Tier 2 and which sites warrant a no further action required classification without further assessment and evaluation.

“*Tier 2 site assessment*” means the process of assessing risk to actual and potential receptors by using site-specific field data and designated Tier 2 exposure and fate and transport models to determine the applicable target level(s).

“*Tier 3 site assessment*” means a site-specific risk assessment utilizing more sophisticated data or analytic techniques than a Tier 2 site assessment.

“*Under-dispenser containment (UDC)*” means containment underneath a dispenser that will prevent leaks from the dispenser from reaching soil or groundwater. Such containment must:

- Be intact and liquid-tight on its sides and bottom and at any penetrations;
- Be compatible with the substance conveyed by the piping; and
- Allow for visual inspection and monitoring and access to the components in the containment system.

“*Underground area*” means an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

“*Underground release*” means any below-ground release.

“*Underground storage tank*” or “*UST*” means any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. This term does not include any:

- a. Farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for non-commercial purposes. Iowa Code section 455B.471 requires those tanks existing prior to July 1, 1987, to be registered. Tanks installed on or after July 1, 1987, must comply with all 567—Chapter 135 rules;
- b. Tank used for storing heating oil for consumptive use on the premises where stored;
- c. Septic tank;

- d. Pipeline facility (including gathering lines) regulated under:
 - (1) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.), or
 - (2) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.), or
 - (3) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in “d”(1) or “d”(2) of this definition;
- e. Surface impoundment, pit, pond, or lagoon;
- f. Storm-water or wastewater collection system;
- g. Flow-through process tank;
- h. Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or
- i. Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term “underground storage tank” or “UST” does not include any pipes connected to any tank which is described in paragraphs “a” through “j” of this definition.

“*Underground utility vault*” means any constructed space accessible for inspection and maintenance associated with subsurface utilities.

“*Unreasonable risk to public health and safety or the environment*” means the Tier 1 levels for a Tier 1 site assessment, the applicable target level for a Tier 2 site assessment, and the applicable target level for a Tier 3 site assessment.

“*Upgrade*” means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of product.

“*UST system*” or “*tank system*” means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.

“*Utility envelope*” means the backfill and trench used for any subsurface utility line, drainage system and tile line.

“*Wastewater treatment tank*” means a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

567—135.3(455B) UST systems—design, construction, installation and notification.

135.3(1) Performance standards for new UST systems. In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements.

a. *Tanks.* Each tank must be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

- (1) The tank is constructed of fiberglass-reinforced plastic; or

NOTE: The following industry codes may be used to comply with 135.3(1) “a”(1): Underwriters Laboratories Standard 1316, “Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products”; Underwriters Laboratories of Canada CAN4-S615-M83, “Standard for Reinforced Plastic Underground Tanks for Petroleum Products”; or American Society of Testing and Materials Standard D4021-86, “Standard Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks.”

- (2) The tank is constructed of steel and cathodically protected in the following manner:

- 1. The tank is coated with a suitable dielectric material;
- 2. Field-installed cathodic protection systems are designed by a corrosion expert;
- 3. Impressed current systems are designed to allow determination of current operating status as required in 135.4(2) “c”; and

4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or according to guidelines established by the department; or

NOTE: The following codes and standards may be used to comply with 135.3(1) "a"(2): Steel Tank Institute "Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks"; Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks"; Underwriters Laboratories of Canada CAN4-S603-M85, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and CAN4-GO3.1-M85, "Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids," and CAN4-S631-M84, "Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems"; or National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and Underwriters Laboratories Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids."

(3) The tank is constructed of a steel-fiberglass-reinforced plastic composite; or

NOTE: The following industry codes may be used to comply with 135.3(1) "a"(3): Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks," or the Association for Composite Tanks ACT-100, "Specification for the Fabrication of FRP Clad Underground Storage Tanks."

(4) The tank is constructed of metal without additional corrosion protection measures provided that:

1. The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and

2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1) "a"(4) "1" for the remaining life of the tank; or

(5) The tank construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than 135.3(1) "a" (1) to (4).

b. Piping. The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

(1) The piping is constructed of fiberglass-reinforced plastic; or

NOTE: The following codes and standards may be used to comply with 135.3(1) "b"(1): Underwriters Laboratories Subject 971, "UL Listed Non-Metal Pipe"; Underwriters Laboratories Standard 567, "Pipe Connectors for Flammable and Combustible and LP Gas"; Underwriters Laboratories of Canada Guide ULC-107, "Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids"; and Underwriters Laboratories of Canada Standard CAN 4-S633-M81, "Flexible Underground Hose Connectors."

(2) The piping is constructed of steel and cathodically protected in the following manner:

1. The piping is coated with a suitable dielectric material;

2. Field-installed cathodic protection systems are designed by a corrosion expert;

3. Impressed current systems are designed to allow determination of current operating status as required in 135.4(2) "c"; and

4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or guidelines established by the department; or

NOTE: The following codes and standards may be used to comply with 135.3(1) "b"(2): National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage Systems"; American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems"; and National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems."

(3) The piping is constructed of metal without additional corrosion protection measures provided that:

1. The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and

2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1) “b”(3)“1” for the remaining life of the piping; or

NOTE: National Fire Protection Association Standard 30, “Flammable and Combustible Liquids Code”; and National Association of Corrosion Engineers Standard RP-01-69, “Control of External Corrosion on Submerged Metallic Piping Systems,” may be used to comply with 135.3(1) “b”(3).

(4) The piping construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in 135.3(1) “b”(1) to (3).

c. *Spill and overflow prevention equipment.*

(1) Except as provided in subparagraph (2), to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overflow prevention equipment:

1. Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

2. Overflow prevention equipment that will:

Automatically shut off flow into the tank when the tank is no more than 95 percent full; or

Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm; or

Restrict flow 30 minutes prior to overfilling, alert the operator with a high-level alarm one minute before overfilling, or automatically shut off the flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling.

(2) Owners and operators are not required to use the spill and overflow prevention equipment specified in subparagraph (1) if:

1. Alternative equipment is used that is determined by the department to be no less protective of human health and the environment than the equipment specified in subparagraph (1)“1” or “2” of this paragraph; or

2. The UST system is filled by transfers of no more than 25 gallons at one time.

d. *Installation.* All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer’s instructions.

NOTE: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of 135.3(1) “d”: American Petroleum Institute Publication 1615, “Installation of Underground Petroleum Storage System”; Petroleum Equipment Institute Publication RP100, “Recommended Practices for Installation of Underground Liquid Storage Systems”; or American National Standards Institute Standard 831.3, “Petroleum Refinery Piping,” and American National Standards Institute Standard 831.4, “Liquid Petroleum Transportation Piping System.”

e. *Certification of installation.* All owners and operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with paragraph “d” of this subrule by providing a certification of compliance on the UST notification form in accordance with 135.3(3).

(1) The installer has been certified by the tank and piping manufacturers; or

(2) The installer has been certified or licensed by the department as provided in 567—Chapter 134, Part C; or

(3) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or

- (4) The installation has been inspected and approved by an inspector certified or licensed by the Iowa comprehensive petroleum underground storage tank fund board; or
- (5) All work listed in the manufacturer's installation checklists has been completed; or
- (6) The owner and operator have complied with another method for ensuring compliance with paragraph "d" that is determined by the department to be no less protective of human health and the environment.

135.3(2) Upgrading of existing UST systems.

a. Alternatives allowed. Not later than December 22, 1998, all existing UST systems must comply with one of the following requirements:

- (1) New UST system performance standards under 135.3(1);
- (2) The upgrading requirements in paragraphs "b" through "d" below; or
- (3) Closure requirements under rule 135.15(455B), including applicable requirements for corrective action under rules 135.7(455B) to 135.12(455B).

Replacement or upgrade of a tank system on a petroleum contaminated site classified as a high or low risk in accordance with subrule 135.12(455B) shall be a double wall tank or a tank equipped with a secondary containment system with monitoring of the space between the primary and secondary containment structures in accordance with 135.5(4)"g" or other approved tank system or methodology approved by the Iowa comprehensive petroleum underground storage tank fund board.

b. Tank upgrading requirements. Steel tanks must be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:

- (1) *Interior lining.* A tank may be upgraded by internal lining if:
 - 1. The lining is installed in accordance with the requirements of 135.4(4), and
 - 2. Within ten years after lining, and every five years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.

(2) *Cathodic protection.* A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of 135.3(1)"a"(2)"2," "3," and "4" and the integrity of the tank is ensured using one of the following methods:

- 1. The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or
- 2. The tank has been installed for less than ten years and is monitored monthly for releases in accordance with 135.5(4)"d" through "h"; or
- 3. The tank has been installed for less than ten years and is assessed for corrosion holes by conducting two tightness tests that meet the requirements of 135.5(4)"c." The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three and six months following the first operation of the cathodic protection system; or
- 4. The tank is assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than 135.3(2)"b"(2)"1" to "3."

(3) *Internal lining combined with cathodic protection.* A tank may be upgraded by both internal lining and cathodic protection if:

- 1. The lining is installed in accordance with the requirements of 135.4(4); and
- 2. The cathodic protection system meets the requirements of 135.3(1)"a"(2)"2," "3," and "4."

NOTE: The following codes and standards may be used to comply with subrule 135.3(2): American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks"; National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10-Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection"; National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems"; and American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."

c. Piping upgrading requirements. Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of 135.3(1)"b"(2)"2," "3," and "4."

NOTE: The codes and standards listed in the note following 135.3(1)"b"(2) may be used to comply with this requirement.

d. Spill and overflow prevention equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with new UST system spill and overflow prevention equipment requirements specified in 135.3(1)"c."

135.3(3) Notification requirements.

a. Except as provided in 135.3(3)"b," the owner of an underground storage tank existing on or before July 1, 1985, shall complete and submit to the department a copy of the notification form provided by the department by May 1, 1986.

b. The owner of an underground storage tank taken out of operation between January 1, 1974, and July 1, 1985, shall complete and submit to the department a copy of the notification form provided by the department by May 8, 1986, unless the owner knows the tank has been removed from the ground. For purposes of this subrule, "owner" means the person who owned the tank immediately before the discontinuation of the tank's use.

c. An owner or operator who brings into use an underground storage tank after July 1, 1985, shall complete and submit to the department a copy of the notification form provided by the department within 30 days of installing the tank in the ground. The owner or operator shall not allow the deposit of any regulated substance into the tank without prior approval of the department or until the tank has been issued a tank registration tag and is covered by an approved financial responsibility mechanism in accordance with 567—Chapter 136.

d. All owners and operators of new UST systems must certify in the notification form compliance with the following requirements:

- (1) Installation of tanks and piping under 135.3(1)"e";
- (2) Cathodic protection of steel tanks and piping under 135.3(1)"a" and "b";
- (3) Financial responsibility under 567—Chapter 136, Iowa Administrative Code;
- (4) Release detection under 135.5(2) and 135.5(3).

e. All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping comply with the requirements in 135.3(1)"d."

f. Exemption from reporting requirement. Paragraphs "a" to "c" do not apply to an underground storage tank for which notice was given pursuant to Section 103, Subsection c, of the Comprehensive Environmental Response, Compensation and Liabilities Act of 1980. (42 U.S.C. Subsection 9603(c))

g. Reporting fee. The notice by the owner to the department under paragraphs "a" to "c" shall be accompanied by a fee of \$10 for each tank included in the notice.

h. Notification requirement for installing a tank. A person installing an underground storage tank and the owner or operator of the underground storage tank must notify the department of their intent to install the tank 30 days prior to installation. Notification shall be on a form provided by the department.

i. Notification requirements for a person who sells, installs, modifies or repairs a tank. A person who sells, installs, modifies, or repairs a tank used or intended to be used in Iowa shall notify, in writing, the purchaser and the owner or operator of the tank of the obligations specified in paragraphs 135.3(3) “c” and “j” and the financial assurance requirements in 567—Chapter 136. The notification must include the prohibition on depositing a regulated substance into tanks which have not been registered and issued tags by the department. A standard notification form supplied by the department may be used to satisfy this requirement.

j. It is unlawful for a person to deposit or accept a regulated substance in an underground storage tank that has not been registered and issued permanent or annual tank management tags in accordance with rule 567—135.3(455B). It is unlawful for a person to deposit or accept a regulated substance into an underground storage tank if the person has received notice from the department that the underground storage tank is subject to a delivery prohibition or if there is a “red tag” attached to the UST fill pipe or fill pipe cap as provided in subrule 135.3(8).

(1) The department may provide written authorization to receive a regulated substance when there is a delay in receiving tank tags or at new tank installations to allow for testing the tank system.

(2) The department may provide known depositors of regulated substances lists of underground storage tank sites that have been issued tank tags, those that have not been issued tank tags, and those subject to a delivery prohibition pursuant to subrule 135.3(8). These lists do not remove the requirement for depositors to verify that current tank tags are affixed to the fill pipe prior to delivering product. Regulated substances cannot be delivered to underground storage tanks without current tank tags or those displaying a delivery prohibition “red tag” as provided in subrule 135.3(8).

(3) A person shall not deposit a regulated substance in an underground storage tank after receiving written or oral notice from the department that the tank is not covered by an approved form of financial responsibility in accordance with 567—Chapter 136.

k. If an owner or operator fails to register an underground storage tank within 30 days after installation or obtain annual renewal tags by April 1, the owner or operator shall pay an additional \$250 upon registration of the tank or application for tank tag renewal. The imposition of this fee does not preclude the department from assessing an additional administrative penalty in accordance with Iowa Code section 455B.476.

135.3(4) *Farm and residential tanks.*

a. The owner or operator of a farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for noncommercial purposes is subject to the requirements of this subrule.

b. Farm and residential tanks, installed before July 1, 1987, shall be reported on a notification form by July 1, 1989, but owners or operators are not required to pay a registration fee.

c. Farm and residential tanks that were installed on or after July 1, 1987, shall be in compliance with all the underground storage tank regulations.

135.3(5) *Registration tags and annual management fee.*

a. Tanks of 1100 gallons or less capacity that have registered with the department will be issued a permanent registration tag.

b. The owner or operator of tanks over 1100-gallon capacity must submit a tank management fee of \$65 per tank by January 15 of each year. The owner or operator must also submit written proof that the tanks are covered by an approved form of financial responsibility in accordance with 567—Chapter 136. Upon proper payment of the fee and acceptable proof of financial responsibility, a one-year registration tag will then be issued for the period from April 1 to March 31. The department shall refund a tank management fee if the tank is permanently closed prior to the effective date of April 1 for that year.

c. The owner or operator shall affix the tag to the fill pipe of the underground storage tank where it will be readily visible.

d. A person who conveys or deposits a regulated substance shall inspect the underground storage tank to determine the existence or absence of a current registration tag, a current annual tank management fee tag, or a delivery prohibition “red tag” as provided in subrule 135.3(8). If the tag is not affixed to the fill pipe or fill pipe cap or if a delivery prohibition “red tag” is displayed, the person shall not deposit the substance in the tank.

e. The owner or operator must return the tank tags upon request of the department for failure to meet the requirements of rules 135.3(455B) to 135.5(455B) or the financial responsibility rules in 567—Chapter 136 after permanent tank closure or when tanks are temporarily closed for over 12 months, or when the tank system is suspected to be leaking and the responsible party fails to respond as required in subrule 135.8(1). The department will not return the tags until the tank system is in full compliance with the technical requirements of this chapter and financial responsibility requirements of 567—Chapter 136.

135.3(6) *Petroleum underground storage tank registration amnesty program.*

a. A petroleum underground storage tank required to be registered under 135.3(3) and 135.3(4), which has not been registered prior to July 1, 1988, may be registered under the following conditions:

- (1) The tank registration fee under 135.3(3) “g” shall accompany the registration.
- (2) The storage tank management fee under 135.3(5) shall be paid for past years in which the tank should have been registered.

b. If a tank is registered under this subrule on or prior to October 1, 1989, penalties under Iowa Code section 455B.477 shall be waived.

135.3(7) *Exemption certificates from the environmental charge on petroleum diminution.*

a. An owner or operator of a petroleum underground storage tank that is exempt, deferred, or excluded from regulation under Iowa Code sections 455G.1 to 455G.17, can apply for an exemption certificate from the department to exempt a tank from the environmental charge on petroleum diminution. Exempted tanks include those listed in 135.1(3) “b” and “c” and those excluded in the definition of “underground storage tank” in 135.2(455B). Application for the exemption certificate shall be made on the form provided by the department.

b. An exemption certificate is not required for those classes of tanks that the Iowa comprehensive petroleum underground storage tank fund board has waived from the exemption certificate requirement.

c. The department shall revoke and require the return of the exemption certificate if the petroleum underground storage tank becomes subject to Iowa Code sections 455G.1 to 455G.17.

135.3(8) *Delivery prohibition process.*

a. *Identifying sites subject to delivery response prohibition action.*

(1) Annual registration tag and tank management fee process. Owners and operators shall certify to the following on a form prepared by the department when applying for annual tank tags pursuant to subrule 135.3(5):

1. Installation and performance of an approved UST and piping release detection method as provided in rule 135.5(455B), including an annual line tightness test and a line leak detector test if applicable.

2. Installation of an approved overfill and spill protection system as provided in paragraph 135.3(1) “c.”

3. Installation of an approved corrosion protection system as provided in paragraphs 135.3(1) “a” and “b.”

4. If the UST system has been out of operation for more than three months, that the UST system has been temporarily closed in accordance with rule 135.15(455B) and a certification of temporary closure has been submitted to the department.

5. If the UST system has been removed or filled in place within the last 12 months, the date of removal or filling in place and whether a closure report has been submitted as provided in rule 135.15(455B).

(2) Sites with provisional status. If the UST system has been classified as operating under provisional status as provided in paragraph 135.3(8)“c,” owners and operators when applying for annual tank tags pursuant to subrule 135.3(5) must certify on a form prepared by the department that the owners and operators are in compliance with an approved provisional status remedial plan as provided in paragraph 135.3(8)“c.”

(3) Compliance inspections. The department may initiate a delivery prohibition response action based on: (1) a finding resulting from a third-party compliance inspection conducted pursuant to rule 135.20(455B); (2) a department investigation and inspection conducted pursuant to Iowa Code section 455B.475; or (3) review of a UST system check or other documentation submitted in response to a suspected release under rule 135.6(455B) or in response to a confirmed release under rule 135.7(455B).

b. Delivery prohibition eligibility criteria. A delivery prohibition response action may be initiated upon a finding that the UST system is out of compliance with department rules and meets the eligibility criteria as specified below. Reinstatement criteria define the standards and process for owners and operators to document that they have taken corrective action sufficient to authorize resumption of fuel to the USTs. Prior to initiation of the delivery prohibition, owners and operators are afforded a minimum level of procedural due process such as prior notice and the opportunity to present facts to dispute the finding. Where notice and the opportunity to take corrective action prior to initiation of a delivery prohibition response action are required, notice by the department or by a certified compliance inspector as provided in rule 135.20(455B) shall be sufficient.

If the department finds that any one of the following criteria has been satisfied, the department may initiate a delivery prohibition response action following the notice procedures outlined in paragraph “e” of this subrule. After initiation of the delivery prohibition response action, the department will offer the owner or operator an opportunity to establish reinstatement criteria by written documentation and, if requested, an in-person meeting.

(1) An approved release detection method for USTs or UST piping is not installed, such as automatic tank gauging, groundwater monitoring wells and line leak detectors, and there is no record that an approved method such as inventory control, statistical inventory reconciliation, or interstitial space monitoring has been employed during the previous three months. If the owner or operator claims to have documentation that an approved release detection method has been conducted, the owner or operator will be given two business days to produce the documentation.

REINSTATEMENT CRITERIA: The owner or operator must submit results of a passing UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4)“c” and 135.5(5)“b.” The owner or operator must also document installation and operation of an approved release detection system. This may include proof that a contract has been signed with a qualified statistical inventory reconciliation provider or that a qualified inventory control method has been implemented and training has been provided to onsite supervisory personnel.

(2) No documentation of a required annual line tightness test or line leak detector test has been provided, and the owner or operator has failed to conduct the required testing within 14 days of written notice by the department or a certified compliance inspector as provided in rule 135.20(455B).

REINSTATEMENT CRITERIA: The owner or operator must provide documentation of a passing line precision tightness test at the 0.1 gallon-per-hour leak rate in paragraph 135.5(5)“b” and a line leak detector test as provided in paragraph 135.5(5)“a.”

(3) Overfill and spill protection is not installed.

REINSTATEMENT CRITERION: The owner or operator must provide documentation that overfill and spill protection equipment has been installed.

(4) A corrosion protection system is not installed or there is no record that an impressed current corrosion protection system has been in operation for the prior six months.

REINSTATEMENT CRITERIA: A manned entry tank integrity inspection must be completed prior to installation of a corrosion protection system, and the owner or operator must submit results of a passing UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4) “c” and 135.5(5) “b.” A corrosion protection analysis must be completed and approved by the department.

(5) The owner or operator has failed to provide proof of financial responsibility in accordance with 567—Chapter 136.

REINSTATEMENT CRITERION: The owner or operator must submit acceptable proof of financial responsibility in accordance with 567—Chapter 136.

(6) A qualified UST system release detection method is installed and is being used but the documentation or the absence of documentation is sufficient to question the reliability of the release detection over the past 12-month period. The owner or operator shall be notified of the deficiencies, shall be given at least two business days to produce documentation of compliance and, if necessary, shall be required to conduct a leak detection system analysis and a system tightness test within 14 days. If the owner or operator fails to produce documentation of compliance or to conduct the system analysis and the UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4) “c” and 135.5(5) “b,” the department may initiate a delivery prohibition response action. Notice by the department or a compliance inspector as provided in rule 135.20(455B) shall be sufficient to initiate a delivery prohibition response action.

REINSTATEMENT CRITERIA: The owner or operator must submit documentation that the leak detection method analysis sufficiently documents compliance and explains the reasons for the accuracy and reliability concerns. If necessary, the owner or operator must submit passing results of a UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4) “c” and 135.5(5) “b.”

(7) The owner or operator has failed to document completion of a three-year corrosion protection test or to repair defective corrosion protection equipment within 30 days after notice of the violation by the department or a certified compliance inspector as provided in rule 135.20(455B).

REINSTATEMENT CRITERION: The owner or operator must submit documentation of a three-year corrosion protection test as provided in rule 135.3(455B).

(8) The owner or operator has failed to complete a compliance inspection required by rule 135.20(455B) within 60 days after written notice of the violation by the department.

REINSTATEMENT CRITERION: The owner or operator must submit a compliance inspection report as provided in rule 135.20(455B).

(9) The owner or operator has failed to take necessary abatement action in response to a confirmed release as provided in subrules 135.7(2) and 135.7(3).

REINSTATEMENT CRITERION: The owner or operator must document compliance with the abatement provisions in subrules 135.7(2) and 135.7(3).

(10) The owner or operator has failed to undertake and document release investigation and confirmation steps within seven days in response to a suspected release as provided in paragraph 135.6(3) “a.”

REINSTATEMENT CRITERION: The owner or operator must document release confirmation and system check as provided in paragraph 135.6(3) “a.”

c. *Provisional status.* The department may classify a UST system as operating under a provisional status when the department documents a pattern of UST operation and maintenance violations under rules 135.3(455B) through 135.5(455B) and suspected release and confirmed release response actions under rules 135.6(455B) and 135.7(455B). The department shall provide the owner or operator with a notice specifying the basis for the proposed classification and a proposed remedial action plan. The objective of the remedial action plan is to provide the owner and operator an opportunity to undertake certain remedial actions sufficient to establish a reasonable likelihood that future regulatory compliance will be achieved.

The remedial action plan may include but is not limited to provisions for owner/operator training, development of a facility-specific compliance manual, more frequent third-party compliance inspections than otherwise required under rule 135.20(455B), monthly reporting, and retention of a third-party compliance manager/consultant. If the owner or operator and the department cannot reach agreement on a remedial action plan, the department may initiate enforcement action by issuance of an administrative order pursuant to 567—Chapter 10. This provision does not grant the owner or operator an entitlement to this procedure, and the department reserves all discretion to undertake an enforcement action and assess penalties as provided in Iowa Code sections 455B.476 and 455B.477.

d. Administrative orders. The department may impose a delivery prohibition as a remedy for violations of the operation and maintenance provisions in rules 135.3(455B) through 135.5(455B) and the suspected and confirmed release response actions in rules 135.6(455B) and 135.7(455B). This remedy may be in addition to the assessment of penalties as provided in Iowa Code section 455B.476 and other appropriate injunctive relief necessary to correct violations.

e. Due process prior to initiation of a delivery prohibition response action.

(1) Prior to imposing a delivery prohibition response action under paragraph 135.3(8)“b” above, the department will provide notice to the owner or operator or, if notice to the owner or operator cannot be confirmed, to a person in charge at the UST facility of the basis for the finding and the intent to initiate a delivery prohibition response action. Notice may be by verbal contact, by facsimile, or by regular or certified mail to the UST facility address or the owner’s or operator’s last-known address. The owner and operator will be given a minimum of one business day to provide documentation that the finding is inaccurate or that reinstatement criteria in subparagraphs 135.3(8)“b”(1) through (5) have been satisfied. Additional days and the opportunity for a telephone or in-person conference may be provided the owner and operator to contest the factual basis for a finding under subparagraphs 135.3(8)“b”(6) through (10). Additional procedural due process may be afforded the owner and operator on a case-by-case basis sufficient to satisfy Constitutional due process standards.

If insufficient information is submitted to change the finding, the department will notify the owner or operator and a person in charge at the UST facility of the final decision to impose the delivery prohibition response action.

(2) Provisional status. Upon a finding that an owner or operator under provisional status has failed to comply with the terms of a remedial action plan as provided above, the department may initiate a delivery prohibition response action by giving actual notice to the owner or operator of the basis for the finding of noncompliance and the department’s intent to initiate a delivery prohibition response action. The delivery prohibition response action shall not be imposed without providing the owner or operator the opportunity for an evidentiary hearing consistent with the provisions for suspension and revocation of licenses under 567—Chapter 7.

f. Delivery prohibition procedure. Upon oral or written notice that the delivery prohibition response action has been imposed, the owner or operator and any person in charge of the UST facility shall be notified that they are not authorized to receive any further delivery of regulated substances until conditions for reinstatement of eligibility are satisfied. Owners and operators are required to immediately remove and return to the department the current annual tank management fee tags or the tank registration tags if there are no tank management fee tags. Owners and operators are required to provide the department with names and contact information for all persons who convey or deposit regulated substances to the USTs. The department will attempt to notify known persons who convey or deposit regulated substances to the USTs that they are not authorized to deliver to the USTs until further notice by the department as provided in paragraph 135.3(3)“j” and subrule 135.3(5).

If the tank tags are not returned within three business days, the department shall visit the site, remove the tags, and affix a “red tag” to the fill pipes or fill pipe caps of all affected USTs. It is unlawful for any person to deposit or accept a regulated substance into a UST that has a “red tag” affixed to the fill pipe or fill pipe cap. The department may allow the owner and operator to dispense and sell the remainder of existing fuel unless the department determines there is an immediate risk of a release or other risk to human health, safety or the environment. The department shall confirm in writing the basis for the delivery prohibition response action, contacts made prior to the action, and steps the owner or operator must take to reinstate fuel delivery.

135.3(9) *Secondary containment requirements for new and replacement UST system installations.* All new and replacement underground storage tank systems and appurtenances used for the storage and dispensing of petroleum products installed after November 28, 2007, shall have secondary containment in accordance with this subrule. The secondary containment provision includes the installation of turbine sumps, transition or intermediate sumps and under-dispenser containment (UDC).

a. The secondary containment may be manufactured as an integral part of the primary containment or constructed as a separate containment system.

b. Installation of any new or replacement turbine pumps involving the direct connection to the tank shall have secondary containment.

c. Any replacement of ten feet or more of piping shall have secondary containment.

d. All piping replacements requiring secondary containment shall be constructed with transition or intermediate containment sumps.

e. The design and construction of all primary and secondary containment shall meet the performance standards in subrule 135.3(1) and paragraphs 135.5(3) “b” and 135.5(4) “g.” At a minimum, the secondary containment must:

- (1) Contain regulated substances released from the tank system until detected and removed;
- (2) Prevent the release of regulated substances into the environment at any time during the operational life of the underground storage tank system; and
- (3) Be checked for evidence of a release at least every 30 days as provided in paragraph 135.5(2) “a.”

f. Secondary containment with interstitial monitoring in accordance with paragraphs 135.5(3) “b,” 135.5(4) “g” and 135.5(5) “d” shall become the primary method of leak detection for all new and replacement tanks and piping installed after November 28, 2007.

g. Testing and inspection. Secondary containment systems shall be liquid-tight and must be inspected and tested every two years. The sensing devices must be tested every two years.

(1) Inspections for secondary containment sumps (spill catchment basins, turbine sumps, transition or intermediate sumps, and under-dispenser containment) shall:

1. Consist of a visual inspection by an Iowa-licensed installer or Iowa-certified inspector every two years. Sumps must be intact (no cracks or perforations) and liquid-tight, including sides and bottom.

2. Sumps must be maintained and kept free of debris, liquid and ice at all times.

3. Regulated substances spilled into any spill catchment basin, turbine sump, transition/intermediate sump or under-dispenser containment shall be immediately removed.

(2) Sensing devices used to monitor the interstitial space shall be tested at least every two years for proper function.

h. Under-dispenser containment. When installing a new motor fuel dispenser or replacing a motor fuel dispenser, a UDC shall be installed whenever:

(1) A motor fuel dispenser is installed at a location where there previously was no dispenser (new UST system or new dispenser location at an existing UST system); or

(2) An existing motor fuel dispenser is removed and replaced with another dispenser and the equipment used to connect the dispenser to the underground storage tank system is replaced. This equipment includes flexible connectors or risers or other transitional components that are beneath the dispenser and connect the dispenser to the piping. A UDC is not required when only the emergency shutoff or shear valves or check valves are replaced.

(3) A UDC shall also be installed beneath the motor fuel dispenser whenever ten feet or more of piping is repaired or replaced within ten feet of a motor fuel dispenser.

i. Exceptions from secondary containment standards. A tank owner or operator may request an exception from the secondary containment standard if the location of the UST system is greater than 1,000 feet from a community water system or potable drinking water well. A community water system includes the distribution piping.

(1) "Community water system (CWS)" means a public water system which has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. "Public water supply system" means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes: any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any "special irrigation district." A "public water supply system" is either a "community water system" or a "noncommunity water system."

(2) "Potable drinking water well" means any hole (dug, driven, drilled, or bored) that extends into the earth until it meets groundwater and that supplies water for a noncommunity public water system or supplies water for household use (consisting of drinking, bathing, and cooking or other similar uses). Such wells may provide water to entities such as a single-family residence, a group of residences, businesses, schools, parks, campgrounds, and other permanent or seasonal communities. A "noncommunity water system" is defined in rule 567—40.2(455B) as a public water system that is not a community water system. A "noncommunity water system" is either a "transient noncommunity water system (TNC)" or a "nontransient noncommunity water system (NTNC)."

(3) To determine if a new or replacement underground storage tank, piping, or motor fuel dispenser system is within 1,000 feet of an existing community water system or an existing potable drinking water well, at a minimum the distance must be measured from the closest part of the new or replacement underground storage tank or piping or the motor fuel dispenser system to:

1. The closest part of the nearest existing community water system, including:

- The location of the wellhead(s) for groundwater and the location of the intake point(s) for surface water;

- Water lines, processing tanks, and water storage tanks; and

- Water distribution/service lines under the control of the community water system operator.

2. The wellhead of the nearest existing potable drinking water well.

(4) If a new or replacement underground storage tank, piping, or motor fuel dispenser that is not within 1,000 feet of an existing community water system will be installed, and a community water system that will be within 1,000 feet of the UST system is planned or a permit application has been submitted to the department under 567—Chapter 40, secondary containment and under-dispenser containment are required unless the permit is denied.

(5) If a new or replacement underground storage tank, piping, or motor fuel dispenser that is not within 1,000 feet of an existing potable drinking water well will be installed and the owner will be installing a potable drinking water well at the new facility, or a private water well permit has been submitted pursuant to 567—Chapter 38 and pursuant to applicable county and municipal ordinances for a potable drinking water well that will be within 1,000 feet of the UST system, secondary containment and under-dispenser containment are required unless the permit is denied.

j. Documentation for exception from secondary containment. The following documentation must be provided by the tank owner or operator when requesting an exception from the UST system secondary containment requirement.

(1) A statement from the manager of the local community water system that the community water system is not located or planned within 1,000 feet of the UST system location. This would include rural water systems.

(2) A map showing homes and businesses within 1,000 feet of the UST system location.

(3) Identification of the source of water for the business at the UST system location.

(4) The results of an on-foot search around businesses and homes within a 1,000-foot radius for possible potable drinking water wells. Documentation that there are no pending nonpublic water well permit applications within 1,000 feet of the UST system from any applicable municipal permitting authority, county department of health with department-delegated authority, or the department if there is not delegated permitting authority.

(5) Search results from the Geographic Information System (GIS) well mapping for well locations available from the Iowa Geological Survey.

(6) Documentation that the department's water supply section has no pending applications for a public water supply construction permit within 1,000 feet of a proposed UST system installation or replacement or motor fuel dispenser installation or replacement.

567—135.4(455B) General operating requirements.

135.4(1) *Spill and overfill control.*

a. Owners and operators must ensure that releases due to spilling or overfilling do not occur. The owner and operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

NOTE: The transfer procedures described in National Fire Protection Association Publication 385 may be used to comply with 135.4(1) "*a.*" Further guidance on spill and overfill prevention appears in American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code."

b. The owner and operator must report, investigate, and clean up any spills and overfills in accordance with 135.6(4).

135.4(2) *Operation and maintenance of corrosion protection.* All owners and operators of steel UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances:

a. All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.

b. All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(1) *Frequency.* All cathodic protection systems must be tested within six months of installation and at least every three years thereafter or according to another reasonable time frame established by the department; and

(2) *Inspection criteria.* The criteria that are used to determine that cathodic protection is adequate as required by this subrule must be in accordance with a code of practice developed by a nationally recognized association.

NOTE: National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," may be used to comply with 135.4(2) "*b*"(2).

c. UST systems with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly.

d. For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained (in accordance with 135.4(5)) to demonstrate compliance with the performance standards in this subrule. These records must provide the following:

- (1) The results of the last three inspections required in paragraph “c”; and
- (2) The results of testing from the last two inspections required in paragraph “b.”

135.4(3) Compatibility. Owners and operators must use a UST system made of or lined with materials that are compatible with the substance stored in the UST system.

NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of subrule 135.4(3): American Petroleum Institute Publication 1626, “Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations”; and American Petroleum Institute Publication 1627, “Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations.”